APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,010	02/25/2000	Jiandong Huang	H16-26156 US	6987

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EXAMINER
PUENTE, EMERSON C

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/513,010	HUANG ET AL.
	Examiner	**Art Unit**	
	Emerson C. Puente	2113	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>08 September 2006</u> .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-10 and 31-52</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-10 and 31-52</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 February 2000</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other:

DETAILED ACTION

Claims 1-10 and 31-52 have been examined.

. This action is made **Final**. Applicant's amendment necessitated the new ground(s) of

rejection presented in this Office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10 and 31 are rejected under 35 U.S.C. § **103(a)** as being unpatentable over US

Patent No. 5,153,874 of Kohno in view of US Patent No. 6,192,414 of Horn and U.S. Patent No.

6,434,117 of Momona.

In regards to claim 1, Kohno discloses:

determining the state of a primary network connection between each pair of the at least

three network nodes (see figure 3 and 4; see column lines 35-52);

determining the state of a redundant network connection between each pair of the at least

three network nodes (see figure 3 and 4; column 3 lines 35-52);

selecting either the primary network connection or the redundant network connection, but

not both, for receiving data between each pair of network nodes, such that the network path

selected to be used to communicate is selected independently based on the determined network

states for each pair of network nodes (see column 3 lines 5-7 and 20-30).

However, Kohno discloses a communication network which send signals via both transmission lines (see column 3 lines 20-30) and thus fails to disclose selecting either the primary network connection or the redundant network connection, but not both, for sending data between each pair of network nodes.

Kohno further fails to explicitly disclose wherein at least one of the at least three network nodes is operable to selectively forward data, where the data is forwarded to a different one of the at least three network nodes.

Horn discloses a known communication network system which determines the state of a primary network connection between each pair of network nodes, determines the state of a redundant network connection between each pair of network nodes, and selects either the primary network connection or the redundant network connection, but not both, for sending and receiving data between each pair of network nodes (see column 3 lines 55-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Kohno in a system that selects either the primary network connection or the redundant network connection, but not both, for sending and receiving data between each pair of network nodes, as disclosed Horn. A person of ordinary skill in the art would have been motivated because Horn is concerned with determining problems with network connections (see column 3 lines 55-60) and incorporating a abnormality check circuit which receives signals from other station to determine with connections are normal and abnormal (see column 3 lines 31-34), as per teaching of Kohno, helps an operator to easily estimate the location and cause of the fault (see column 3 lines 50-52).

Momona further discloses using one or more intermediate nodes as a repeater (see figure 1 and column 4 lines 5-11), indicating wherein at least one of the at least three network nodes is operable to selectively forward data, where the data is forwarded to a different one of the at least three network nodes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kohno and Horn with Momona to use one or more intermediate nodes as a repeater, indicating wherein at least one of the at least three network nodes is operable to selectively forward data, where the data is forwarded to a different one of the at least three network nodes. A person of ordinary skill in the art would have been motivated to make the modification because Kohno in view of Horn discloses the use of repeaters (see column 3 lines 35-42 of Kohno) and having intermediate nodes that act as repeaters, as per teachings of Momona (see column 4 lines 5-11), would lessen distortion and minimize or remove the need to have repeaters per transmission line between each node.

In regards to claim 2, Kohno discloses:

building a network status table that indicated results of determining the state of the primary and redundant network connections between each pair of network nodes (see figure 4).

In regards to claim 3, Kohno discloses a method wherein the network status table comprises data representing network status based on data received at a node from other network nodes (see figure 4 and column 3 lines 40-47).

In regards to claim 4, Kohno discloses :

wherein the data received at a node from other networked nodes comprises a diagnostic message (column 3 lines 3-12).

In regards to claim 5, Kohno discloses:

wherein the data received at a node from other network nodes comprises data

representing the ability of the other nodes to receive data from other different network nodes (see

figure 4 and column 3 lines 43-47).

In regards to claims 6 and 7, Kohno discloses:

wherein the network status table comprises data representing network status based on a

node's ability to send data to other nodes (see figure 4 and column 3 lines 43-47).

In regards to claim 8, Kohno discloses:

·wherein selecting the primary or redundant network connection for communication

between each pair of network nodes comprises selecting the primary network connection if the

state of the primary network connection is determined to be operable and selecting the

redundant connection if the state of the primary network connection is determined to be

inoperable. Kohno states the use of a switch means such that the receiving circuit is connected to

a normal transmission line when abnormality is decided (see column 3 lines 25-30), indicating a

switch from the primary network connection to a secondary network connection when the

primary connection is inoperable or abnormal.

In regards to claim 9, Kohno discloses:

wherein selecting the primary or redundant network connection for communication

between each pair of network nodes comprises selecting the primary network connection to

transmit data if the state of the primary network connection is determined to be operable to

transmit data, selecting the primary network connection to receive data if the state of the primary

network connection is determined to be operable to receive data, selecting the redundant network

connection to transmit data if the state of the primary network connection is determined to be

inoperable to transmit data, and selecting the redundant network connection to receive data if the

state of the primary network connection is determined to be inoperable to receive data. Kohno

states the use of a switch means such that the receiving circuit is connected to a normal

transmission line when abnormality is decided (see column 3 lines 25-30), indicating a switch

from the primary network connection to a secondary network connection when the primary

connection is not operable or abnormal. Thus, it is implied that there is a primary network

connection to transmit and receive data upon determination that the network connection is

operable and a redundant network connection to transmit and receive data upon determination

the network connection is inoperable.

In regards to claim 10, Kohno in view of Horn and Momona discloses wherein selecting a

connection for sending and receiving data between each pair of network nodes comprises

selecting a connection for sending and receiving data from a first node to one or more connected

intermediate nodes and selecting a connection for sending and receiving data from an

intermediate node to a second node. Momona discloses the use of one or more intermediate

nodes as a repeater (see figure 1 and column 4 lines 5-11).

In regards to claim 31, Kohno discloses:

wherein determining the state of connections between each pair of network nodes

comprises determination of whether each node in a pair of network nodes can send data to the

other node and can receive data from the other node in the pair. Kohno states the use of an

abnormal test circuit to check if the transmission line is normal or operable, thus determining

whether each node in a pair can send and receive data to the other (see column 2 lines 58-69 and

column 3 lines 1-4). Upon determination that the transmission line between a pair is abnormal or

inoperable, it is understood that data cannot be sent and received between each node in the pair.

Claims 32-52 are rejected under 35 U.S.C. § **103(a)** as being unpatentable over Kohno in

view of Momona.

In regard to claims 32 and 43, Kohno discloses:

determining the state of a primary network connection between the network interface and

the network interfaces of at least two other network nodes (see figure 3 and 4; see column lines

35-52);

determining the state of a redundant network connection between the network interface

and the network interfaces of at least two other network nodes (see figure 3 and 4; column 3 lines

35-52);

selecting either the primary network connection or the redundant network connection, but

not both, for communication with each pair of at least two other network nodes, such that the

network connection selected is selected independently based on the determined network states

for each other network nodes (see column 3 lines 5-7 and 20-30).

However, Kohno fails to explicitly disclose wherein at least one of the at least three

network nodes is operable to selectively forward data, where the data is forwarded to a different

one of the at least three network nodes.

Momona discloses using one or more intermediate nodes as a repeater (see figure 1 and

column 4 lines 5-11), indicating wherein at least one of the at least three network nodes is

operable to selectively forward data, where the data is forwarded to a different one of the at least

three network nodes.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Kohno with Momona to use one or more intermediate

nodes as a repeater, indicating wherein at least one of the at least three network nodes is operable

to selectively forward data, where the data is forwarded to a different one of the at least three

network nodes. A person of ordinary skill in the art would have been motivated to make the

modification because Kohno discloses the use of repeaters (see column 3 lines 35-42) and having

intermediate nodes that act as repeaters, as per teachings of Momona (see column 4 lines 5-11),

would lessen distortion and minimize or remove the need to have repeaters per transmission line

between each node.

In regard to claims 33 and 44, Kohno discloses:

a network status table that indicated results of the determination of the state of the

primary and redundant network connections between the computer network interface and the

interface of other network nodes (see figure 4).

In regard to claims 34 and 45, Kohno discloses

wherein the network status table comprises data representing network status based on

data received at a node from other network nodes (see figure 4 and column 3 lines 40-47).

In regard to claims 35 and 46, Kohno discloses

wherein the data received at a node from other network nodes comprises a diagnostic

message (column 3 lines 3-12).

In regard to claims 36 and 47, Kohno discloses

wherein the data received at a node from other network nodes comprises data representing the ability of the other nodes to receive data from other different network nodes (see figure 4 and column 3 lines 43-47).

In regard to claims 37, 38, 48, and 49, Kohno discloses

wherein the network status table comprises data representing network status based on a node's ability to send data to other nodes (see figure 4 and column 3 lines 43-47).

In regard to claims 39 and 50, Kohno discloses

wherein selecting either the primary network connection or redundant network connection for communication between each pair of network nodes comprises selecting the primary network connection if the state of the primary network connection is determined to be operable and selecting the redundant connection if the state of the primary network connection is determined to be inoperable. Kohno states the use of a switch means such that the receiving circuit is connected to a normal transmission line when abnormality is decided (see column 3 lines 25-30), indicating a switch from the primary network connection to a secondary network connection when the primary connection is inoperable or abnormal.

In regard to claims 40 and 51, Kohno discloses

wherein selecting the primary or redundant network connection for communication between each pair of network nodes comprises selecting the primary network connection to transmit data if the state of the primary network connection is determined to be operable to transmit data, selecting the primary network connection to receive data if the state of the primary network connection is determined to be operable to receive data, selecting the redundant network connection to transmit data if the state of the primary network connection is determined to be

inoperable to transmit data, and selecting the redundant network connection to receive data if the

state of the primary network connection is determined to be inoperable to receive data. Kohno

states the use of a switch means such that the receiving circuit is connected to a normal

transmission line when abnormality is decided (see column 3 lines 25-30), indicating a switch

from the primary network connection to a secondary network connection when the primary

connection is not operable or abnormal. Thus, it is implied that there is a primary network

connection to transmit and receive data upon determination that the network connection is

operable and a redundant network connection to transmit and receive data upon determination

the network connection is inoperable.

In regard to claim 41 and 52, Kohno in view of Momona discloses wherein selecting a

connection for sending and receiving data between each pair of network nodes comprises

selecting a connection for sending and receiving data from a first node to one or more connected

intermediate nodes and selecting a connection for sending and receiving data from an

intermediate node to a second node. Momona discloses the use of one or more intermediate

nodes as a repeater (see figure 1 and column 4 lines 5-11).

In regards to claim 42, Kohno discloses

determining the state of connections between each pair of network nodes comprises

determination of whether each node in a pair of network nodes can send data to the other node

and can receive data from the other node in the pair. Kohno states the use of an abnormal test

circuit to check if the transmission line is normal or operable, thus determining whether each

node in a pair can send and receive data to the other (see column 2 lines 58-69 and column 3

lines 1-4). Upon determination that the transmission line between a pair is abnormal or inoperable, it is understood that data cannot be sent and received between each node in the pair.

Response to Arguments

Applicant's arguments filed September 8, 2006 have been fully considered but they are not persuasive.

In response to applicant's argument on page 9 of arguments "As Kohno is not capable of sending a signal over only one line at a time and is not operable to select a line based on a specific pair of nodes desiring communication, Kohno does not anticipated the aspects of the pending claims," examiner respectfully disagrees.

Although examiner agrees with applicant that the Kohno reference in itself does not teaching "sending" a signal over only one line at a time, claim 32 and 43 does not disclose such language. Examiner notes claim 32 and 43 states among other things "selecting either the primary network connection or the redundant network connection, but not both, for **communication** with each of the at least two other nodes". As Kohno only discloses receiving signals by the receiving circuit from only one transmission line (column 3 lines 5-7 and 20-30), Kohno only communicates via one line. Argument is moot. Examiner maintains his rejection.

In response to applicant's argument on page 10 of arguments "Horn fails to consider selection of one or the other, but not both connections, for sending data in a network environment comprising multiple pairs of interconnected network nodes, such as is described in the specification and shown in the figures of the pending application. Horn further failed to consider independent determination of the link to be used in each pair of nodes, except that each

pair of nodes in Horn exist separately and unconnected to one another," examiner respectfully
disagrees.

Horn discloses sending data in a network environment comprising multiple pairs of
interconnected network nodes (see figure 2 and column 4 lines 37-44). Regarding Horn failing to
disclose independent determination of the link to be used in each pair of nodes, examiner
indicated above that Kohno disclosed the network path selected to be used to communicate is
selected independently based on the determined network states for each pair of network nodes
(see claim 1 above). Argument is moot. Examiner maintains his rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this
Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE
MONTHS from the mailing date of this action. In the event a first reply is filed within TWO
MONTHS of the mailing date of this final action and the advisory action is not mailed until after
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,
however, will the statutory period for reply expire later than SIX MONTHS from the date of this
final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emerson C. Puente whose telephone number is (571) 272-3652. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ecp
11/14/06